SANTA CRUZ BIOTECHNOLOGY, INC.

p-ATF-2 (F-1): sc-8398

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Eukaryotic gene transcription is regulated by sequence-specific transcription factors which bind modular *cis*-acting promotor and enhancer elements. The ATF/CREB transcription factor family binds the palindromic cAMP response element (CRE) octanucleotide TGACGTCA. The ATF/CREB family includes CREB-1, CREB-2 (also designated ATF-4), ATF-1, ATF-2 and ATF-3. This family of proteins contain highly divergent N-terminal domains but share a C-terminal leucine zipper for dimerization and DNA binding. ATF-2 forms homodimers and heterodimers with c-Jun to initiate CRE-dependent transcription. Phosphorylation of ATF-2 at Thr 69 and Thr 71 by stress-activated kinases is necessary for transcriptional activation. Myc also induces phosphorylation of ATF-2 at Thr 69 and Thr 71 to prolong the half-life of ATF-2. ATF-2 also functions as a histone acetyltransferase (HAT) by specifically acetylating histones H2B and H4 *in vitro*. The gene encoding human ATF-2 maps to chromosome 2q31.1.

CHROMOSOMAL LOCATION

Genetic locus: ATF2 (human) mapping to 2q31.1, ATF7 (human) mapping to 12q13.13; Atf2 (mouse) mapping to 2 C3, Atf7 (mouse) mapping to 15 F3.

SOURCE

p-ATF-2 (F-1) is a mouse monoclonal antibody raised against a short amino acid sequence containing Thr 71 phosphorylated ATF-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-8398 X, 200 µg/0.1 ml.

p-ATF-2 (F-1) is available conjugated to agarose (sc-8398 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8398 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8398 PE), fluorescein (sc-8398 FITC), Alexa Fluor® 488 (sc-8398 AF488), Alexa Fluor® 546 (sc-8398 AF546), Alexa Fluor® 594 (sc-8398 AF594) or Alexa Fluor® 647 (sc-8398 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8398 AF680) or Alexa Fluor® 790 (sc-8398 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p-ATF-2 (F-1) is available conjugated to TRITC (sc-8398 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-8398 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

p-ATF-2 (F-1) is recommended for detection of ATF-2 phosphorylated at Thr 71 and correspondingly phosphorylated ATF-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

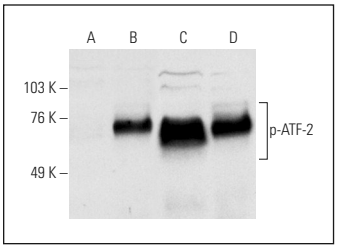
p-ATF-2 (F-1) is also recommended for detection of correspondingly phosphorylated ATF-2 and ATF-7 in additional species, including equine, bovine, porcine and avian.

p-ATF-2 (F-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

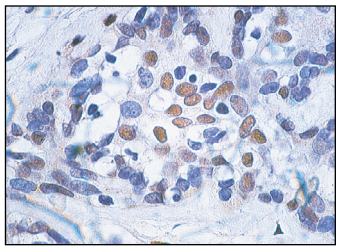
Molecular Weight of p-ATF-2: 70 kDa.

Positive Controls: NIH/3T3 + anisomycin cell lysate: sc-2247.

DATA



Western blot analysis of ATF-2 phosphorlation in untreated (**A**,**C**) and anisomycin induced (**B**,**D**) NIH/3T3 cells. Antibodies tested include p-ATF-2 (F-1): sc-8398 (**A**,**B**) and ATF-2 (N-96): sc-6233 (**C**,**D**).



p-ATF-2 (F-1): sc-8398. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization of activated ATF-2.

SELECT PRODUCT CITATIONS

1. Sugino, T., et al. 2000. Activation of mitogen-activated protein kinases after transient forebrain ischemia in gerbil hippocampus. J. Neurosci. 20: 4506-4514.
2. Szmydynger-Chodobska, J., et al. 2013. Synergistic interactions between cytokines and AVP at the blood-CSF barrier result in increased chemokine production and augmented influx of leukocytes after brain injury. PLoS ONE 8: e79328.
3. Krokowski, D., et al. 2015. Coordinated regulation of the neutral amino acid transporter SNAT2 and the protein phosphatase subunit GADD34 promotes adaptation to increased extracellular osmolarity. J. Biol. Chem. 290: 17822-17837.
4. Sun, J., et al. 2016. Comprehensive RNAi-based screening of human and mouse TLR pathways identifies species-specific preferences in signaling protein use. Sci. Signal. 9: ra3.

RESEARCH USE

For research use only, not for use in diagnostic procedures.